

REMARKS

This amendment responds to the Office Action dated August 20, 2001 in which the Examiner rejected Claims 1-20 under 35 U.S.C. § 112, second paragraph and under 35 U.S.C. § 102(b).

As indicated above, the claims have been amended in order to more particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. It is respectfully submitted that the rejection of the claims under 35 U.S.C. § 112, second paragraph, no longer applies. Therefore, it is respectfully requested that the Examiner withdraws the rejection to the claims under 35 U.S.C. § 112 second paragraph.

Claim 1 claims a test socket including a test board, a seat for a member to be tested and a contact to be electrically connected to an external connection terminal of the member to be tested so as to be used for testing an electrical characteristic of the member. The contact comprises a tip end, resiliently-deformable bulging sections and a terminal. The tip end is to be brought into contact with the external connection terminal. The resiliently-deformable bulging sections extend horizontally with respect to the tip end. The terminal is for insertion into a circuit board.

Through the structure of the claimed invention having resiliently-deformable bulging sections which extend horizontally with respect to a tip end, as claimed in Claim 1, the claimed invention provides a test socket which ensures electrical connection between the contact and the external connection terminals of the member. The prior art does not show, teach or suggest resiliently-deformable bulging sections which extend horizontally with respect to a tip end as claimed in Claim 1.

Claim 10 claims a test socket comprising a test board, a seat for a member to be tested, and a contact to be electrically connected to an external connection terminal of the member to be tested and is to be used for testing the electrical characteristic of the member. The contact includes a plurality of tip ends, resilient sections and a support section. The plurality of the ends are to be brought into contact with each other when brought into contact with the external connection terminal. The resilient sections are connected to the respective tip ends. The support section is connected to the resilient sections or to one resilient section by way of the other resilient section.

Through the structure of the claimed invention having a plurality of tip ends which are brought into contact with each other when brought into contact with the external connection terminal, as claimed in Claim 1, the claimed invention provides a test socket which ensures electrical connection. The prior art does not show, teach or suggest the plurality of tip ends which are brought into contact with each other when brought into contact with an external connection terminal as claimed in Claim 10.

Claims 1-20 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Fischer* (U.S. Patent No. 275,759) or *Cobaugh et al.* (U.S. Patent No. 3,865,462).

Fischer appears to disclose a piano fork which is carried by a bar *b* consisting of a lead strengthened by a core of iron. To this bar, the fork may be fixed directly with their stem but may be by a hinge *k* with an arm *i*. The fork is at the same time held between two screws *q* and *r* having knobs faced with soft material.

Thus, *Fischer* is merely directed to holding a piano fork. Nothing in *Fischer* shows, teaches or suggests a contact be electrically connected to an external connection

terminal to test electrical characteristics of that member as claimed in Claims 1 and 10.

Rather, *Fischer* is merely directed to holding a piano fork.

Cobaugh et al. appears to disclose in Figs. 1-3 a plurality of electrical contacts, generally indicated by the reference character 10, the dependent ends of which form elongated posts 12 which are adapted for wire-wrapping or any other type of point-to-point wiring connections. The posts 12 may be respectively inserted through a plurality of bores 14 formed with a P.C. board 16, and the contacts 10 are further provided with tapered ear members 18 which extend outwardly from the upper portions of posts 12, the lateral expanse of which is greater than the diameter of the bores 14 whereby the lower planar surfaces 19 of ears 18 abut the upper surface 20 of P.C. board 16 thereby limiting the depth to which the contacts may be inserted within the board 16. In addition, there is integrally disposed upon the upper portion of each post 12 a bifurcated section which serves to form a pair of leaf-spring type contact members 22 and 24.

Thus, *Cobaugh et al.* merely discloses a pair of leaf-spring type contact members 22, 24 attached to ear members 18. Nothing in *Cobaugh et al.* shows, teaches or suggests resiliently-deformable bulging sections extending from a single tip end as claimed in Claim 1. Rather, *Cobaugh et al.* merely discloses leaf-springs 22, 24 each having tips 32. In other words, in *Cobaugh et al.* each leaf-spring has a separate tip whereas in Claim 1, the bulging sections extend from a single tip end and have a single terminal.

Additionally, *Cobaugh et al.* merely discloses that the contact members form a U-shaped contact portion in cross section. Thus, nothing in *Cobaugh et al.* shows, teaches or suggests a plurality of tip ends to be brought into contact with each other when brought

into contact with the external connection terminal as claimed in Claim 10. Rather, the leaf-springs are offset from one another and only form a U-shaped contact portion in cross section.

Since nothing in *Fischer* or *Cobaugh et al.* show, teach or suggest (a) bulging sections which extend with respect to a single tip end as claimed in Claim 1 or (b) a plurality of tip ends to be brought into contact with each other when brought into contact with an external connection terminal as claimed in Claim 10, it is respectfully requested that the Examiner withdraw the rejection to Claims 1 and 10 under 35 U.S.C. § 102(b).

Claims 2-8 and 11-19 depend from Claims 1 and 10 and recite additional features. It is respectfully submitted that Claims 2-8 and 11-19 would not have been anticipated by *Fischer* or *Cobaugh et al.* within the meaning of 35 U.S.C. §102(b) at least for the reasons as set forth above. Therefore, it is respectfully requested that the Examiner withdraw the rejection to Claims 2-8 and 11-19 under 35 U.S.C. § 102(b).

Thus, it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

If for any reason the Examiner feels that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our
Deposit Account No. 02-4800.

Respectfully submitted,

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Marked-up Copy of Claims 1, 7, 8, 10 and 17-19

1. (Amended) A test socket including a test board, a seat for a member to be tested and [with] a contact to be electrically connected to an external connection terminal of [a] the member to be tested so as to be used for testing an electrical characteristic of the member, wherein

said contact comprises:

a tip end to be brought into contact with said external connection terminal; [and]
resiliently-deformable bulging sections which extend horizontally with respect to
said tip end; and
a terminal for insertion into a circuit board.

7. (Amended) The method of manufacturing the contact of the test socket defined in claim 6, comprising the steps of:

punching material so as to define the profile of a contact of a test socket belonging to an electronic device or semiconductor package;

forming, in a tip end to be brought into contact with an external connection terminal of a member to be tested of the punched component, a plurality of protuberances and a plurality of recesses from smoothly-curved surfaces such that the recesses are located adjacent to the protuberances; and

forming a film on the punched component having the irregularities formed therein.

Marked-up Copy of Claims 1, 7, 8, 10 and 17-19

8. (Amended) The test method involving use of the contact of the test socket as defined in claim 1, comprising the steps of:

bringing an external connection terminal of a member to be tested into contact with a tip end of the contact of the test socket;

sending, to the member, an electric signal transmitted from a terminal connected to a circuit board; and

testing the operation of the member through use of the electric signal returned from the test member.

10. (Amended) A test socket comprising:

a test board;

a seat for a member to be tested; and

a contact to be electrically connected to an external connection terminal of [a] the member to be tested and is to be used for testing the electrical characteristic of the member, wherein

said contact includes:

a plurality of tip ends to be brought into contact with each other when brought into contact with the external connection terminal;

resilient sections connected to said respective tip ends; and

a support section to which said resilient sections are connected or to which one resilient section is connected by way of the other resilient section.

Marked-up Copy of Claims 1, 7, 8, 10 and 17-19

17. (Amended) A method of manufacturing said contact of said test socket defined in claim 10, comprising the steps of:

punching a member having the property of a spring into a component so as to define the profile of a contact of a test socket belonging to an electronic device or semiconductor package;

splitting a tip end of the contact into a plurality of pieces; and
plating said punched component.

18. (Amended) A method of manufacturing said contact of said test socket defined in claim 16, comprising the steps of:

punching a member having the property of a spring into a component so as to define the profile of a contact of a test socket belonging to an electronic device or semiconductor package;

splitting a tip end of the contact into a plurality of pieces;
forming a plurality of protuberances and recesses from smooth surfaces in the surfaces of the tip end such tat the protuberances and recesses are adjacent to each other;
plating the roughened component.

19. (Amended) The test method involving use of the contact of the test socket as defined in claim 10, comprising the steps of:

Marked-up Copy of Claims 1, 7, 8, 10 and 17-19

bringing an external connection terminal of a member to be tested into contact with a tip end of the contact of said test socket;

sending, to said member, an electric signal transmitted from a terminal connected to a circuit board; and

testing the operation of the member through use of the electric signal returned from the test member.